

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

PCT

To:

see form PCT/ISA/220

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/EP2004/011227

International filing date (day/month/year)
07.10.2004

Priority date (day/month/year)
07.10.2003

International Patent Classification (IPC) or both national classification and IPC
F15D1/06, F15D1/12

Applicant
VIDA, Nikolaus

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☒ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☒ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:



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10/575129

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/EP2004/011227

1AP20 Rec'd PCT/PTO 07 APR 2006

Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
☐ a sequence listing
☐ table(s) related to the sequence listing
 - b. format of material:
☐ in written format
☐ in computer readable form
 - c. time of filing/furnishing:
☐ contained in the international application as filed.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/EP2004/011227

Box No. II Priority

1. ☒ The following document has not been furnished:

- ☒ copy of the earlier application whose priority has been claimed (Rule 43bis.1 and 66.7(a)).
- ☐ translation of the earlier application whose priority has been claimed (Rule 43bis.1 and 66.7(b)).

Consequently it has not been possible to consider the validity of the priority claim. This opinion has nevertheless been established on the assumption that the relevant date is the claimed priority date.

2. ☐ This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43bis.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.
3. ☐ It has not been possible to consider the validity of the priority claim because a copy of the priority document was not available to the ISA at the time that the search was conducted (Rule 17.1). This opinion has nevertheless been established on the assumption that the relevant date is the claimed priority date.
4. Additional observations, if necessary:

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	5-11,14-33,36,37,39,40
	No: Claims	1-4,12,13,34,35,38
Inventive step (IS)	Yes: Claims	
	No: Claims	1-40
Industrial applicability (IA)	Yes: Claims	1-40
	No: Claims	

2. Citations and explanations

see separate sheet

Box No. VI Certain documents cited

1. Certain published documents (Rules 43bis.1 and 70.10)

and /or

2. Non-written disclosures (Rules 43bis.1 and 70.9)

see form 210

Re Item V

Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1 Reference is made to the following documents:

- D1: JP 11 082860 A (HIRATA JUNICHI), 26 March 1999 (1999-03-26)
- D2: US-A-3 664 928 (ROBERTS ERNEST ROTH) 23 May 1972 (1972-05-23)
- D3: EP-A-0 679 812 (OLEINIKOV VALERY GRIGORIEVICH ;
GACHECHILADZE IVAN ALEXANDROVI (RU); K) 2 November 1995 (1995-11-02), cited in the application
- D4: WO 97/04280 A (VIDA NIKOLAUS ; KIKNADZE GENNADY IRAKLEVICH (RU); OLEINIKOV VALERY GRI) 6 February 1997 (1997-02-06), cited in the application
- D5: US-A-5 080 367 (LYNCH FRANCIS DES ET AL) 14 January 1992 (1992-01-14)
- D7: DE 198 40 303 A (BRANDHORST INGO) 9 March 2000 (2000-03-09)

2 Clarity and interpretation of the claims

- 2.1 The claims 10, 11, 21-24, 28 and 30 attempt to define the subject-matter in terms of the result to be achieved, which merely amounts to a statement of the underlying problem, without providing the technical features for achieving this result. Therefore these claims are not clear (Article 6 PCT). During the examination only the remaining (technical) features were taken into account.
- 2.2 Claims 17, 18 and 21-24 do apparently not include all features of "any preceding claim" but only of any preceding claim except claims 1-12. Claims 17, 18 and 21-24 were interpreted accordingly. Similarly claim 31 was interpreted as a claim according to one of claims 12-24 and not to one of claims 1-13.

3 Novelty

The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claims 1-4, 12, 13 and 34, 35 and 38 is not new in the sense

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING
AUTHORITY (SEPARATE SHEET)**

International application No.

PCT/EP2004/011227

of Article 33(2) PCT.

3.1 With reference to independent apparatus claim 1

The document D2 discloses (see especially figs. 2, 8 and 14):

Device for transportation of a flowing medium and/or for heat exchange between a flowing medium and the device, wherein at least one surface of the device is provided with a plurality of dimples.

The features of claim 1 are also disclosed in D1, D3 and D4.

3.2 With reference to dependent claims 2-4

The features of these claims are also known from D2 (see the relevant passages given in the search report).

3.3 With reference to independent apparatus claim 12

A normal golf ball is provided with the features of claim 12 (see especially figs. 4 and 5 of D5). This document discloses a surface along which a medium flows, said medium consisting of a gas, a liquid, a two-phase mixture, or a mixture of multiple phases, wherein said surface comprises dimples, wherein the edges of said dimples are rounded, thereby forming a central dimple area and at least one curvature area for each dimple, which continuously connects the dimple to the surrounding surface. D3 also discloses these features.

3.4 With reference to claim 13

The documents D3 and D5 also describe the features of these claims (see the corresponding passages given in the search report).

3.5 With reference to independent method claim 34

The features of this claim are known from D1 (see especially par. 42) and also at least implicitly known from D2 since imprinting is a commonly used method of forming sheet metal.

3.6 With reference to independent method claim 35

Providing a dimpled surface by moulding is described in D5 (cf. col. 8, line 21-26).

3.7 With reference to independent use claim 38

D3 discloses (cf. especially page 5, lines 43 and 44 and the figures) an application of a surface comprising a plurality of dimples as a surface of a flow channel for reducing the deposition of particles, when a medium flows along the surface.

4 Inventive Step

4.1 Dependent claims 5-11 and 14-32 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty and/or inventive step, as the additional features of these claims are per se known from document D3 or as they are obvious in the light of this document (see the corresponding passages cited in the search report). The person skilled in the art would apply the known or obvious features with corresponding effect to an apparatus according to D2 or D5, respectively thereby arriving at a device, surface or layer according to each of claims 5-11 and 14-32.

4.2 With reference to independent method, use and apparatus claims 33, 36, 37, 39 and 40

4.2.1 With reference to claim 33

Applying a (self-adhesive) layer with dimples onto a surface is known from D7 (see the corresponding passages in the search report). Since claims 31 and 32 are not regarded as being inventive (cf. 3.2 above) the method of applying a layer according to these claims to a surface also lacks an inventive step.

4.2.2 With reference to claims 36 and 37

Claims 1-30 are either not inventive or not new. Therefore the application of

a surface with dimples for a device for transportation, for a device for heat exchange or in an air-conditioning system lacks an inventive step (see also the corresponding passages of D1-D5 cited in the search report).

4.2.3 With reference to claims 39 and 40

A surface of a flow channel with dimples is e.g. known from D1 (cf. the corresponding passages cited in the search report). Its use for reducing ice formation and an air-conditioning system with such a flow channel lack an inventive step in the light of D2, D3 and D5.

Re Item VI

Certain documents cited

Certain published documents

Application No Patent No	Publication date (day/month/year)	Filing date (day/month/year)	Priority date (valid claim) (day/month/year)
PCT/EP2003/013241	10/06/2004	25/11/2003	25/11/2002
WO 2004/048871 A2			